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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,805	09/29/2003	Milton W. Demaray	HDS008	3676
25271 7590 12/11/2007 GALLAGHER & LATHROP, A PROFESSIONAL CORPORATION 601 CALIFORNIA ST SUITE 1111 SAN FRANCISCO, CA 94108			EXAMINER SUN, SCOTT C	
			ART UNIT 2182	PAPER NUMBER
			MAIL DATE 12/11/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/674,805

Applicant(s)

DEMARAY ET AL.

Examiner

Scott Sun

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/3/2007 has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1- have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-30 are rejected because the claims lack practical application.

Specifically, the claims are directed towards obtaining data and establishing data relationships. However, data and manipulation of data, per se, do not provide a useful,

concrete, and tangible result. It is suggested that the claims include some practical application, such as copying data using the cross-references. Examiner notes that merely "preparing to copy data" (emphasis added) as recited, does not imply a result is necessarily produced.

5. To expedite a complete examination of the instant application, the claim(s) rejected under 35 USC 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-30 are rejected under 35 U.S.C. 102(e) as being unpatentable over Mimatsu et al (PG Pub # 2004/0111485) in view of Kodama (Pub #2003/0115433).

8. Regarding claim 1, Mimatsu discloses in a system (figure 1) comprising a first computer (host computers 1101 paragraph 34) coupled to first and second storage devices (storage units 1405, 1406), the method comprising:

Cross-referencing a hardware address (LUN 3103, WWN 3102) identifying the first storage device and a first device identifier (device identifier 3106) for representing

the first storage device to a program (disk volume management table shown in figure 3) in the first computer (paragraph 51, 53);

Cross-referencing a hardware address (LUN 3103, WWN 3102) identifying the second storage device and a first device identifier (device identifier 3106) for representing the second storage device to a program (disk volume management table shown in figure 3) in the first computer (paragraph 51, 53);

Pairing the first and second storage devices (paragraph 57);

Mimatsu does not disclose explicitly adding the pair to a copy group containing other storage device pairs. However, Kodama discloses adding the pair, by information other than first device identifiers (pair names), to a copy group (pair tables shown in figures 12-15) already containing another storage device pair (paragraph 66);

Identifying the copy group (referencing the table in figure 12 as pair table, table in figure 13 as device table, etc);

Cross-referencing the copy-group identifier and the first device identifiers of the pair (index into the tables using the pair name to look up information regarding the copy pair, which contains device identifiers, as shown in figure 12);

And preparing to copy data, using the cross-reference (the copy pairs are used for remote copy, paragraph 4).

Teachings of Mimatsu and Kodama are from the same field of storage device managements, and specifically of data mirroring. Therefore, it would have been obvious at the time of invention for a person of ordinary skill in the art to combine teachings of Mimatsu and Kodama by using copy pair tables in the system of Mimatsu

for the benefit of organizing multiple copy pairs by relevant information (paragraphs 66-70).

9. Regarding claim 2, Mimatsu and Kodama combined disclose claim 1 and Mimatsu further discloses receiving a first input (mode select, mode sense instructions, paragraph 51) specifying one or more first device identifiers; obtaining one or more hardware addresses in response to the first input; and establishing the first map by associating the one or more hardware addresses with one or more first device identifiers (paragraph 51).

10. Regarding claim 3, Mimatsu and Kodama combined disclose claim 1 and Mimatsu further discloses the first computer receives the first input and, in response, sends one or more commands (command 8101) to a respective controller (paragraph 46); the respective controller obtains at least some of the one or more hardware addresses in response to the one or more commands by interrogating either or both of control information in the respective controller and recording devices coupled to the respective controller, and sends the obtained hardware addresses to the first computer; and the first computer establishes the first map (paragraphs 53).

11. Regarding claim 4, Mimatsu and Kodama combined disclose claim 1 and Mimatsu further discloses the first computer comprises a channel subsystem (fibre channel interface 1102) that controls transfers of data between the first computer and one or more recording devices coupled to the respective controller; the first computer is coupled to the respective controller by a first data communication path (fibre channel cables 1314) that is a channel path coupled to the channel subsystem; the one or more

commands are conveyed to the respective controller by a channel program comprising one or more channel command words generated by the channel subsystem; and hardware addresses obtained by the respective controller are conveyed to the first computer through the first data communication path as one or more responses to the channel program (paragraph 34).

12. Regarding claim 5, Mimatsu and Kodama combined disclose claim 1 and Mimatsu further discloses, wherein the respective controller determines whether a respective recording device is capable of responding to a query command (inquiry command, paragraph 51) and returns the hardware address of the respective recording device only if the respective recording device is capable of responding to the query command. Examiner notes that if recording device does not respond to the inquiry command, it will not provide the information requested.

13. Regarding claim 6, Mimatsu and Kodama combined disclose claim 1 and Mimatsu further discloses wherein each of the plurality of recording devices has a recording medium with a medium identifier that identifies the recording medium (device identifier 3106), and the first map also provides a cross-reference between medium identifiers and either or both of hardware addresses and first device identifiers for respective recording devices (figure 3), and wherein the method comprises: establishing the copy-group map also to provide a cross-reference between the copy-group identifier and the medium identifiers for the one or more pairs of recording devices assigned to the copy group (paragraph 50). Examiner notes that Mimatsu teaches that identifiers (serial numbers) are also included with the volume number entry.

14. Regarding claim 7, Mimatsu and Kodama combined disclose claim 1 and Mimatsu further discloses, wherein the system comprises a second computer (computer 1201) coupled to one or more controllers of which at least one of the controllers is coupled to one or more recording devices that are in the one or more pairs of recording devices assigned to the copy group (figure 1), the method comprising: obtaining a second map that provides a cross-reference between the hardware address of the respective recording device and a second device identifier that is associated with the respective recording device, wherein the second device identifier represents the respective recording device to programs executing in the second computer; and establishing the copy-group map also to provide a cross-reference between the copy-group identifier and the second device identifiers of the one or more recording devices that are in the one or more pairs of recording devices assigned to the copy group (paragraphs 57, 58). Examiner notes that Mimatsu teaches that the volumes are used by both computers. Therefore the mappings are performed for both computers.

15. Regarding claim 8, Mimatsu and Kodama combined disclose claim 1 and Mimatsu further discloses receiving a second input specifying one or more second device identifiers; obtaining one or more hardware addresses in response to the second input; and establishing the second map by associating the one or more hardware addresses with the one or more second device identifiers. Examiner notes that the claim state limitations similar to those of claim 2, except the functions are performed for the second computer. As cited above, the functions for both host computers are the



same. Accordingly, the corresponding functions are also performed for the second computer.

16. Regarding claim 9, Mimatsu and Kodama combined disclose claim 1 and Mimatsu further discloses wherein: the second computer receives the second input and, in response, sends one or more commands to a respective controller; the respective controller obtains at least some of the one or more hardware addresses in response to the one or more commands by interrogating either or both of control information in the respective controller and recording devices coupled to the respective controller, and sends these obtained hardware addresses to the second computer; and the second computer establishes the second map. Examiner notes that the claim state limitations similar to those of claim 3, except the functions are performed for the second computer. As cited above, the functions for both host computers are the same. Accordingly, the corresponding functions are also performed for the second computer.

17. Regarding claim 10, Mimatsu and Kodama combined disclose claim 1 and Mimatsu further discloses: the second computer comprises a channel subsystem that controls transfers of data between the second computer and one or more recording devices coupled to the respective controller; the second computer is coupled to the respective controller by a second data communication path that is a channel path coupled to the channel subsystem; the one or more commands are conveyed to the respective controller by a channel program comprising one or more channel command words generated by the channel subsystem; and hardware addresses obtained by the respective controller are conveyed to the second computer through the second data

communication path as one or more responses to the channel program. Examiner notes that the claim state limitations similar to those of claim 4, except the functions are performed for the second computer. As cited above, the functions for both host computers are the same. Accordingly, the corresponding functions are also performed for the second computer.

18. Regarding claims 11-30, examiner notes that the claims are substantially similar to claims 1-10, differing only in statutory category. The same grounds of rejection are applied.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Sun whose telephone number is (571) 272-2675. The examiner can normally be reached on Mon-Thu, 10:00am-8pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry N. Tsai can be reached on (571) 272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

  
HENRY TSAI  
SUPERVISORY PATENT EXAMINER

12/10/07

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